



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Prior Application

Applicant: Robert Goldman

Serial No.: 08/186,302

Group Art Unit: 2414

Filed: January 25, 1994

Examiner: P. Assouad

Title: Digital Audio System for Radio Stations

* * *

TRANSMITTAL OF FILING UNDER 37 CFR 1.60(b)
 Assistant Commissioner for Patents
 Washington, DC 20231
ATTN: BOX PATENT APPLICATION

Sir:

This is a request for filing a

☒ Continuation☐ Divisional

application under 37 CFR §1.60, of the above-named pending prior application

1. Copy of Prior Application as Filed Which is Attached

☒ The undersigned hereby verifies that the attached papers are a true copy of the above-identified prior application, including the oath or declaration originally filed (37 CFR 1.60).

The copy of the papers of prior application as filed which are attached hereto are as follows:

☒ 13 page(s) of specification
☒ 7 page(s) of claims
☒ 2 page(s) of abstract

RECEIVED "0349" 4646T3B0

2. Amendments

- ☐ Cancel in this application original claims \geq of the prior application before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
- ☒ A preliminary amendment is enclosed. (Claims added by this amendment have been properly numbered consecutively beginning with the number next following the highest numbered original claim in the prior application.)
- ☒ A letter enclosing formal drawings is submitted.

3. Fee Calculation (37 CFR 1.16)

Small Entity Status is claimed.

CLAIMS AS FILED

(1) For	(2) Number filed	(3) Number extra	(4) Large Entity Rate	(5) Small Entity Rate	(6) Calculations
Basic Filing Fee	XXXXXXXX	XXXXXXXX	\$ 770.00	\$ 385.00	\$ 385.00
Total Claims	32 - 20 =	12	X \$ 22.00	X \$ 11.00	\$ 132.00
Independent Claims	8 - 3 =	5	X \$ 80.00	X \$ 40.00	\$ 200.00
Multiple Dependent Claim(s) (if applicable)			\$ 260.00	\$ 130.00	\$ 0.00
Total of above Calculations =					\$ 717.00
			Other		\$ 0.00
			TOTAL FEE		\$ 717.00

4. Priority Under -- 35 U.S.C. 119

- ☐ Priority of application Serial No. \geq filed on \geq in \geq is claimed under 35 U.S.C. 119.
- ☐ The certified copy has been filed in prior U.S. application Serial No. \geq on \geq .
- ☐ The certified copy will follow.

5. Priority Under -- 35 U.S.C 120

- ☒ Amend the specification by inserting before the first line the sentence:

--This is a

- ☒ continuation
- ☐ divisional of copending application(s)
- ☒ Serial No. 08/186,302 filed on January 25, 1994"
- ☐ International Application \geq filed on \geq and which designated the U.S.--

6. Inventorship Statement

With respect to the prior copending U.S. application from which this application claims benefit under 35 U.S.C. 120, the inventor(s) in this application are:

- ☒ the same
☐ less than those named in the prior application and it is requested that the following inventor(s) identified above for the prior application be deleted:
☐ not the same, and an explanation, including the ownership of the various claims at the time the last claimed invention was made, is being filed herewith.

7. Assignment

- ☐ The prior application is assigned of record to
☐ an assignment of the invention to is attached. A separate "ASSIGNMENT COVER LETTER ACCOMPANYING NEW PATENT APPLICATION" is also attached.

8. Fee Payment Being Made At This Time

Small Entity Status is claimed.

- ☒ Enclosed
☒ basic filing fee \$ 385.00
☐ recording assignment (\$40.00; 37 CFR 1.21(h)) \$ 0.00
☒ extra claims fee \$ 332.00

Total fees enclosed \$ 717.00

- ☒ Charge Account No. 07-1896 in the amount of \$717.00. A duplicate of this request is attached.

9. Authorization To Charge Additional Fees

- ☒ The Commissioner is hereby authorized to charge any additional fees due or credit any overpayment to the Account No. 07-1896.

10. Power of Attorney

- ☒ The power of attorney in the prior application is to William C. Roch, Reg. No. 24,972.
☒ A new Power of attorney to Gray Cary Ware & Freidenrich is enclosed for this continuation application.

[X] All future correspondence should be addressed to:

Patent Department
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Respectfully submitted,

By:

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EXPRESS MAIL number: EH888455394US

Date of Deposit: March 17, 1997

I hereby certify that this paper is being deposited with the United States Postal Service "EXPRESS MAIL Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks; Washington, DC 20231.

Joe Marchese
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Signature

Joe Marchese

DIGITAL AUDIO SYSTEM FOR RADIO STATIONSBACKGROUND OF THE INVENTION1. Field of the Invention

5 The present invention relates generally to a digital audio system for radio stations, and more particularly pertains to a programmable digital audio system for radio stations wherein the music to be played and broadcast over the radio station is stored in a
10 digital database from which it is recalled pursuant to prior programming of the operation of the radio station.

2. Discussion of the Prior Art

Recording of audio music has progressed significantly over the past decade. The introduction of
15 digital audio music has created a revolution in the quality of sound available for home users and for radio stations nationwide. The compact disk has become the standard for high quality digital audio, and has had a high acceptance rate in the marketplace.

20 In a typical prior art radio station environment, the disks to be played and broadcast are located and retrieved from a CD musical library. The disks are then loaded into a CD player, the music cued to play, and subsequently the disks are returned to the
25 library after play, actions which require time, labor, money and space. With the latest developments in computer technology, many of these steps can be eliminated to result in bottom-line savings to a commercial radio station.

30 SUMMARY OF THE INVENTION

Accordingly, it is a primary object of the present invention to provide a digital audio system for

1 radio stations wherein the broadcast music is stored in
a digital database to provide a programmable radio
station.

2 The concept of the present invention is
5 relatively straightforward; instead of having the music
exist on compact disks, the music is stored in a common
digital database which is present in a computer system.
The operator only needs to point an arrow at the name of
the desired song to be played, press a button and the
10 music is then immediately played in full digital sound.
The order of the songs can be programmed in advance and
played without staff intervention. Commercials and
station promotions can be inserted as needed.

15 The database is created by loading desired CD
tracks from the station CD library once, and additional
songs can be loaded as necessary. Once the database is
created, the compact disks need not be used again; all
music is played directly from the database.

20 Another feature of the present invention
improves the system operation and performance even more.
If a song is not available in the radio station's
database, it can be transmitted to the system upon
request over a telecommunications link that provides
music from a master library database to the station's
25 system.

Each system can be customized to the station's
operational procedures. The system can adapt current
forms and provide any reports that the station currently
requires, and station logs can be maintained auto-
30 matically. All required FCC logs can be automatically
recorded, summarized, and printed as required.

1 The present invention provides substantial
cost savings in the operation of a commercial radio
station in the following areas:

 In staffing, fewer people are required for the
5 station operation. Compact disks no longer need to be
taken from the library and returned after each play.
People are not needed to cue songs to play, as it is
automatically handled by the system of the present
invention.

10 In space savings, large music libraries are no
longer necessary. Music is loaded once in advance into
the system, and the source of the music (e.g., CD) need
not be stored or saved.

 In equipment savings, fewer tape/CD players
15 are necessary, resulting in dramatic maintenance cost
savings.

 In efficiency, the system of the present
invention is very easy to operate. The person in charge
of programming selects the music to be played and places
20 the music in a desired program order. A prior day's
program can be used as a guide in planning future
programming. The system then validates the selections
and requests the loading of any material not present
either by tapes/CD's or by downloading if available.
25 Work station consoles are available throughout the
station for use by engineers, DJ's and others
responsible for station operation.

 In reliability, a backup computer system
automatically takes over for the primary computer system
30 in case of failure. All music in the database can have
a second standby copy available and backup power to take

1 over in an emergency, to operate the system in a fail-
safe mode.

Listener response can also be implemented into
the digital audio system for radio stations of the
5 present invention. A listener call-in number can be
tied into the system so that requested songs can be
automatically played. Songs can be selected by a touch-
tone phone without involving station personnel. A
connection can also be made available to local
10 interactive cable TV networks such that subscribers can
have the same capabilities via the television set.
Listener demographic information can be easily
collected, which can be used for advertising,
promotional, or programming purposes.

15 The system of the present invention
revolutionizes the way that radio stations operate.
Ease of use, cost savings, and increased station
efficiency provide a quick return to the station.
Additional features and options such as user call-in via
20 telephone or interactive cable television provide
tremendous marketing opportunities resulting in more
listeners and higher advertising revenues.

In accordance with the teachings herein, the
present invention provides a digital radio broadcast
25 station which includes a common digital database having
stored therein a plurality of at least several hundred
different selections of music to be played and broadcast
by the radio station. A processor system is provided
for programming the digital radio broadcast station with
30 a sequence of music selections, which are subsequently

1 retrieved in order from the common digital database and
played over the digital radio broadcast station.

In greater detail, the processor system
includes a main computer system for operating the radio
5 station, and also a backup computer system for operating
the radio station in the event of a failure of the main
computer system. In that regard, a fiber optic cable
connects the main computer system with the backup
computer system for switching between the main and
10 backup computer systems. The processor system is
preferably based upon Reduced Instruction Set Computing
(RISC) architecture. The processor system preferably
comprises an IBM RS/6000 system with an AIX operating
system, and also includes first and second disk drive
15 controllers. The common digital database comprises a
disk array storage, preferably a dual port RAID disk
array. The digital radio broadcast station also
includes a plurality of work station consoles for use by
personnel responsible for operating the radio station
20 such as disc jockeys and engineers. A bridged network
which may include a modem is also provided for
connecting the radio station to a further digital
database for music selections not stored in the common
digital database. The processor system is provided with
25 a connection to a telephone network, such that radio
station callers can communicate with the radio station
by a touch tone telephone. The processor system is also
provided with a connection to an interactive cable
television network, such that cable television viewers
30 can communicate with the radio station over the
interactive cable television network.

1 The present invention also provides a method
for operating a radio station which includes digitally
storing in a common digital database, of a computer
system, a plurality of at least several hundred
5 different selections of music which is to be played and
broadcast by the radio station. Pursuant to the method,
the computer system is programmed with a sequence of
music selections to be played by the radio station, and
the programmed sequence of music selections is
10 subsequently retrieved from the common digital database
and broadcast over the radio station.

 The method of operation preferably utilizes a
main computer system for operating the radio station and
a backup computer system for operating the radio station
15 in the event of a failure of the main computer system,
with the processor systems preferably being based upon
reduced instruction set computing architecture. The
main computer system and the backup computer system are
connected by a fiber optic cable connection for
20 switching between the main and backup computer systems.
The method of operation of the radio station also
provides a plurality of work station consoles for use by
personnel responsible for operating the radio station,
such as disc jockeys and engineers. In greater detail,
25 the step of digitally storing includes digitally storing
the plurality of at least several hundred different
selections of music in a disk array, preferably a dual
port RAID disk array. The method of operation of the
computer system also provides a bridged network which
30 may include a modem for connecting the radio station to
a further digital database for music selections not

1 stored in the common digital database. The method for
operating the radio station also includes inserting
commercials and station promotions into the sequence of
music selections to be played by the radio station. The
5 method of operation of the radio station also provides a
connection to a telephone network, such that radio
station callers can communicate with the radio station
by a touch tone telephone, and further provides a
connection to an interactive cable television network,
10 such that cable television viewers can communicate with
the radio station over the interactive cable television
network. The method of operation of the radio station
also provides a plurality of work station consoles for
use by personnel responsible for operating the radio
15 station such as disc jockeys and engineers. The step of
digitally storing includes storing the plurality of at
least several hundred different selections of music in a
disk array, preferably a dual port RAID disk array.

Pursuant to the teachings of the present
20 invention, the common digital database, either at the
radio station or provided elsewhere, can also be used to
provide an audio on demand service or system. In the
audio on demand system, a communications network is
provided to users, wherein a user communicates with the
25 computer system over the communications network to
indicate a choice of one or more music selections. The
choice of one or more music selections is then retrieved
from the common digital database and transmitted over
the communications network to the user.

30

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1 In greater detail, the communications network
can be provided by a telephone system, wherein a user
communicates with the computer system by a touch tone
telephone to indicate a choice of one or more music
5 selections, and the one or more music selections are
then transmitted over the telephone system to the
caller. The communications network can also be provided
by an interactive cable television network, wherein a
user communicates with the computer system over the
10 interactive cable television network to indicate a
choice of one or more music selections, and the one or
more music selections are then transmitted over the
interactive cable television network to the user.

BRIEF DESCRIPTION OF THE DRAWINGS

15 The foregoing objects and advantages of the
present invention for a digital audio system for radio
stations may be more readily understood by one skilled
in the art with reference being had to the following
detailed description of several preferred embodiments
20 thereof, taken in conjunction with the accompanying
drawing wherein Figure 1 is a block diagram of an
exemplary embodiment of a digital audio system for radio
stations constructed pursuant to the teachings of the
present invention.

25 DETAILED DESCRIPTION OF THE DRAWINGS

A digital audio system for radio stations
pursuant to the teachings of the present invention can
be implemented with the computer hardware illustrated in
Figure 1, which shows one preferred embodiment of a
30 Local Area Network (LAN) for a digital audio system for
a radio station. The Local Area Network includes a

1 first RS/6000 processor 10, a second redundant RS/6000
processor 12, a plurality of work stations 14a, 14b,
14c, a Dual Port RAID Disk Array 16, an Ethernet bridge
and modem 18 to connect the LAN to a Wide Area Network
5 (WAN), and connections 20a for stereo audio outputs to
the radio station transmitter, 20b to telephone lines,
and 20c to interactive cable television systems.

Pursuant to the teachings of the present
invention, at least one processor 10 is required, but to
10 provide for optimum performance, a processor system
based on RISC (Reduced Instruction Set Computing)
architecture using two processors 10, 12 is preferred.
The processors 10, 12 accommodate the retrieval and
output of music stored in memory while providing
15 multiple users concurrent access to the system.

The processor system supports a high-
availability processing mode so if one processor system
10 fails, the other processor system 12 immediately
takes over without interruption, which is accomplished
20 via a fiber optic cable 22 linking the two processor
systems.

The processor systems 10, 12 preferably
provide hardware support for the output stereo audio,
and preferably are provided with input/output
25 connections based upon SCSI (Small Computer System
Interface), which allows connection of multiple compact
disk and disk storage units 24 (up to eight) as
required.

The processor systems 10, 12 support Ethernet
30 or Token Ring protocols to allow for the connection of
multiple terminal devices, such as the work stations 14,

1 and also to provide access to remote databases, as by a
bridged network which may include a modem 18, in a Wide
Area Network (WAN).

The processor systems 10, 12 are preferably
5 provided with multiple redundant connections 26 to the
disk system 16 to minimize the possibility of system
failure, and with connections 20b, 20c to telephone and
cable networks to provide for listener opinions and
requests.

10 Based upon commercially available equipment, a
preferred processor which fulfills the requirements of
the present invention is the RS/6000 system manufactured
by IBM Corporation with the following components:

- 15 a. 2 Gigabytes of disk storage in the
processor;
- b. a SCSI (Small Computer System Interface)
Differential Controller (to provide for connections 26
to the disk drives);
- c. 128 Megabytes of main memory;
- 20 d. FDDI (Fiber Data Distributed Interchange)
which is a Fiber adapter (single ring) port for fiber
optic connections 22 between the two processors;
- e. Audio capture/playback adapter (audio
output from machine to 20a);
- 25 f. Digital tape drive with 5.0 gigabyte
capacity for system backup (such as is available in Sony
camcorders);
- g. 4 (minimum) CD-ROM drives;
- h. a communications adapter which is for a
30 separate circuit card for connections to telephone/cable
systems.

1 Although not recommended, the dual RISC
configuration can be replaced by a single processor or
by one based upon a different architecture such as a
personal computer. However, if this substitution is
5 made, poor system performance or reliability may result.

 Regarding the disk storage 16, the primary
requirement for the disk storage is that an on-line
database of at least 30 gigabytes be available at any
time. This amount of disk allows for the storage of
10 approximately 1800 songs; additional storage can be
added as required. The disks are configured so that if
one disk unit fails, the system continues operation
without interruption.

 Additional hardware requirements include:

- 15 a. A second disk drive controller to take
over in the event that the first disk drive controller
fails;
- b. Access to the disk drive unit from both
processors;
- 20 c. Automatic duplication of all data onto a
backup disk drive unit; and
- d. The ability to easily replace failed
components without system downtime.

 These requirements are preferably met by a
25 disk technology called RAID (Redundant Array of
Inexpensive Disks). Using RAID, any storage subsystem
component or processor can fail without affecting the
overall operation of the system. The RAIDIANT ARRAY
product, available commercially from IBM, when equipped
30 with an additional array controller, fulfills these
hardware requirements.

1 Each work station 14 preferably consists of a
19-inch terminal display and a mouse connected via
Ethernet or Token Ring to the main computer system. A
minimum of three work stations 14a, 14b, 14c would
5 generally be required to be used by the following
individuals:

 a. Station Manager - responsible for
selecting and sequencing music and reviewing FCC logs
produced by the system;

10 b. Engineer - responsible for loading system
database and monitoring station operation;

 c. On-Air Personality (DJ) - responsible for
integrating the music sequence into an on-air program.

 Each work station 14 display is preferably
15 configured to the function to be performed. For
example, the station manager's display can present
programming options, while the engineer's display can
present options relevant to the loading of music into
the database. A primary feature of the system is that
20 an individual with little computer experience can
operate the work station easily as all input is entered
by a graphical display.

 Regarding communications equipment, the system
preferably has a connection to optional remote databases
25 via an Ethernet bridged network which may include a
modem 18 and high speed data communication lines. This
allows the system to access and download music which is
not present in the digital database memory of the radio
station's system.

30 Regarding computer software, particularly the
operation system, when using the preferred RISC based

1 processor configuration, a preferred operating system is
AIX, commercially available from IBM Corporation, which
provides support for the hardware and for easy system
operation. Additional features of AIX include:

- 5 a. On-line access to system documentation;
- b. Support, control and design of the
graphical displays used to operate the system;
- c. Support for a high-availability processing
mode so that if one processor fails, a second processor
10 takes over immediately;
- d. The ability to access the music stored in
digital form and then convert it to audio which is then
broadcast by the radio station;
- e. Communications support to allow access to
15 remote systems and databases.

 The database manager will generally be custom
software written for a particular radio station. The
database manager stores the music so that it is
available to the radio station, provides the director
20 listings to the user, and determines in which computer
system the requested song is located. Due to the unique
requirements of the system, the database manager would
generally be specifically written for this application.

 While several embodiments and variations of
25 the present invention for a digital audio system for
radio systems are described in detail herein, it should
be apparent that the disclosure and teachings of the
present invention will suggest many alternative designs
to those skilled in the art.

30

1 WHAT IS CLAIMED IS:

1. A method for operating a digital radio broadcast station comprising:

- a. digitally storing in a common digital
5 database, of a computer system, a plurality of at least several hundred different selections of music which is to be played and broadcast by the radio station;
- b. programming the computer system with a
sequence of music selections to be played by the radio
10 station; and
- c. retrieving from the common digital
database and broadcasting over the radio station the
programmed sequence of music selections.

2. A method for operating a digital radio
15 broadcast station as claimed in claim 1, further comprising providing a main computer system for operating the radio station, and also providing a backup computer system for operating the radio station in the event of a failure of the main computer system.

20 3. A method for operating a digital radio broadcast station as claimed in claim 2, further including providing a plurality of work station consoles for use by personnel responsible for operating the radio station.

25 4. A method for operating a digital radio broadcast station as claimed in claim 3, wherein said step of digitally storing includes the step of digitally storing the plurality of at least several hundred different selections of music in a disk array.

30 5. A method for operating a digital radio broadcast station as claimed in claim 4, wherein the

1 step of digitally storing includes storing the
selections of music in a dual port RAID disk array.

6. A method for operating a digital radio
broadcast station as claimed in claim 5, further
5 comprising providing a bridged network for connecting
the radio station to a further digital database for
music selections not stored in the common digital
database.

7. A method for operating a digital radio
10 broadcast station as claimed in claim 6, further
comprising providing a connection from the computer
system to a telephone network, and wherein radio station
callers communicate with the radio station by a touch
tone telephone.

15 8. A method for operating a digital radio
broadcast station as claimed in claim 7, further
comprising providing a connection from the computer
system to an interactive cable television network, and
wherein cable television viewers communicate with the
20 radio station over the interactive cable television
network.

9. A method for operating a digital radio
broadcast station as claimed in claim 1, further
including providing a plurality of work station consoles
25 for use by personnel responsible for operating the radio
station.

10. A method for operating a digital radio
broadcast station as claimed in claim 1, wherein said
step of digitally storing includes the step of digitally
30 storing the plurality of at least several hundred
different selections of music in a disk array.

1 11. A method for operating a digital radio
broadcast station as claimed in claim 10, wherein the
step of digitally storing includes storing the
selections of music in a dual port RAID disk array.

5 12. A method for operating a digital radio
broadcast station as claimed in claim 1, further
comprising providing a bridged network for connecting
the radio station to a further digital database for
music selections not stored in the common digital
10 database.

13. A method for operating a digital radio
broadcast station as claimed in claim 1, further
comprising providing a connection from the computer
system to a telephone network, and wherein radio station
15 callers communicate with the radio station by a touch
tone telephone.

14. A method for operating a digital radio
broadcast station as claimed in claim 1, further
comprising providing a connection from the computer
20 system to an interactive cable television network, and
wherein cable television viewers communicate with the
radio station over the interactive cable television
network.

15. A digital radio broadcast station
25 comprising:

a. a common digital database having stored
therein a plurality of at least several hundred
different selections of music to be played and broadcast
by the digital radio broadcast station; and

30 b. a processor system for programming the
digital radio broadcast station with a sequence of music

1 selections to be retrieved from the common digital
database and played over the digital radio broadcast
station.

16. A digital radio broadcast station as
5 claimed in claim 15, wherein the processor system
includes a main computer system for operating the radio
station, and also a backup computer system for operating
the radio station in the event of a failure of the main
computer system.

10 17. A digital radio broadcast station as
claimed in claim 16, further comprising a plurality of
work station consoles for use by personnel responsible
for operating the radio station.

18. A digital radio broadcast station as
15 claimed in claim 17, wherein said common digital
database comprises a disk array storage.

19. A digital radio broadcast station as
claimed in claim 18, wherein said disk array storage
comprises a dual port RAID disk array.

20 20. A digital radio broadcast station as
claimed in claim 19, further comprising a bridged
network for connecting the radio station to a further
digital database for music selections not stored in the
common digital database.

25 21. A digital radio broadcast station as
claimed in claim 20, further comprising a connection
from the processor system to a telephone network, and
wherein radio station callers communicate with the radio
station by a touch tone telephone.

30 22. A digital radio broadcast station as
claimed in claim 21, further comprising a connection

1 from the processor system to an interactive cable
television network, and wherein cable television viewers
communicate with the radio station over the interactive
cable television network.

5 23. A digital radio broadcast station as
claimed in claim 22, wherein the processor system
includes first and second disk drive controllers.

 24. A digital radio broadcast station as
claimed in claim 23, wherein the processor system
10 comprises an IBM RS/6000 system based upon reduced
instruction set computing architecture, and includes an
AIX operating system.

 25. A digital radio broadcast station as
claimed in claim 15, further comprising a plurality of
15 work station consoles for use by personnel responsible
for operating the radio station.

 26. A digital radio broadcast station as
claimed in claim 15, wherein said common digital
database comprises a disk array storage.

20 27. A digital radio broadcast station as
claimed in claim 26, wherein said disk array storage
comprises a dual port RAID disk array.

 28. A digital radio broadcast station as
claimed in claim 15, further comprising a bridged
25 network for connecting the radio station to a further
digital database for music selections not stored in the
common digital database.

 29. A digital radio broadcast station as
claimed in claim 15, further comprising a connection
30 from the processor system to a telephone network, and

30. A digital radio broadcast station as claimed in claim 15, further comprising a connection
5 from the processor system to an interactive cable television network, and wherein cable television viewers communicate with the radio station over the interactive cable television network.

32. A digital radio broadcast station as claimed in claim 15, wherein the processor system comprises an IBM RS/6000 system based upon reduced instruction set computing architecture, and includes an AIX operating system.

a. digitally storing in a common digital
20 database, of a computer system, a plurality of at least
several hundred different selections of music;

c. retrieving from the common digital database and transmitting over the communications network to the user the choice of one or more music selections.

35

1 providing a communications network comprises providing a
connection from the computer system to a telephone
network, and wherein a user communicates with the
computer system by a touch tone telephone to indicate a
5 choice of one or more music selections, and the one or
more music selections are transmitted over the telephone
network to the caller.

35. A method for operating an audio on demand
network as claimed in claim 33, wherein said step of
10 providing a communications network comprises providing a
connection from the computer system to an interactive
cable television network, and wherein a user
communicates with the computer system over the
interactive cable television network to indicate a
15 choice of one or more music selections, and the one or
more music selections are transmitted over the
interactive cable television network to the user.

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4627ED 4646TBB0

1 ABSTRACT OF THE DISCLOSURE

5 A digital radio broadcast station which includes a common digital database having stored therein a plurality of at least several hundred (preferably at least 1800) different selections of music to be played and broadcast by the radio station. A processor system is provided for programming the operation of the digital radio broadcast station with a sequence of music selections, which are subsequently retrieved in order from the common digital database and played over the digital radio broadcast station. The processor system preferably includes a main computer system for operating the radio station, and also a backup computer system for operating the radio station in the event of a failure of the main computer system. The processor system is preferably based upon reduced instruction set computing architecture, and preferably comprises an IBM RS/6000 system with an AIX operating system. The common digital database comprises a disk array storage, preferably a dual port RAID disk array. The digital radio broadcast station also includes a plurality of work station consoles for use by personnel responsible for operating the radio station such as disc jockeys and engineers. A bridge network such as a modem is also provided for connecting the radio station to a further digital database for music selections not stored in the common digital database. The processor system is provided with a connection to a telephone network, such that radio station callers can communicate with the radio station by a touch tone telephone, and is also provided with a connection to an interactive cable television network,

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DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below adjacent to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of subject matter (process, machine, manufacture, or composition of matter, or an improvement thereof) which is claimed and for which a patent is sought by way of the application entitled: DIGITAL AUDIO SYSTEM FOR RADIO STATIONS

which (check) ☒ is attached hereto.
☒ and is amended by the Preliminary Amendment attached hereto.
☐ was filed on _____ as Application Serial No. _____.
☐ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understood the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information known to me to be material to the examination of this application in accordance with Title 37, Code of Federal Regulations, § 1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
<u>N/A</u>			Yes	No
(Number)	(Country)	(Day/Month/Year Filed)		
<u></u>	<u></u>	<u></u>	Yes	No
(Number)	(Country)	(Day/Month/Year Filed)		

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s) listed below and, insofar as any subject matter of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

<u>08/186,302</u>	<u>January 25, 1994</u>	<u>Pending</u>
(Appl. Ser. No.)	(Filing Date)	(Status-patented, pending, abandoned)
<u></u>	<u></u>	<u></u>
(Appl. Ser. No.)	(Filing Date)	(Status-patented, pending, abandoned)

I hereby appoint the following attorney(s) and/or patent agent(s) to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith:

Timothy W. Lohse (Reg. No. 35,255); Barry N. Young, (Reg. No. 27,774); Marnie Wright Barnhorst (Reg. No. 36,740); Stephen E. Reiter (Reg. No. 31,192); David F. Kleinsmith (Reg. No. 40,050); and Gregory P. Raymer (Reg. No. 36,647).

Address all telephone calls to Timothy W. Lohse at telephone number (415) 833-2415

Address all correspondence to Timothy W. Lohse
GRAY CARY WARE & FREIDENRICH
400 HAMILTON AVENUE
PALO ALTO, CA 94301

I hereby declare that all statements herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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FEDERAL BUREAU OF INVESTIGATION
U.S. DEPARTMENT OF JUSTICE

Full name of sole inventor (if any) Robert Goldman
Inventor's signature [Signature] Date 3/17/97
Residence San Jose, CA 95123 Citizenship U.S.
Post Office Address 841 Windsor Hills Circle
San Jose, CA 95123

Full name of second inventor (if any) _____
Inventor's signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____

Full name of third inventor (if any) _____
Inventor's signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____

Full name of fourth inventor (if any) _____
Inventor's signature _____ Date _____
Residence _____ Citizenship _____
Post Office Address _____

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

DIGITAL AUDIO SYSTEM FOR RADIO STATIONS

the specification of which (check only one item below):

☒ is attached hereto.

☐ was filed as United States application

Serial No. _____

on _____

and was amended

on _____ (if applicable).

☐ was filed as PCT international application

Number _____

on _____

and was amended under PCT Article 19

on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

COUNTRY (If PCT, indicate PCT)	APPLICATION NUMBER	DATE OF FILING (day month year)	PRIORITY CLAIMED UNDER 35 USC 119
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

Combined Declaration For Patent Application and Power of Attorney (Continued)

(Includes Reference to PCT International Applications)

ATTORNEY S DOCKET NUMBER

9160

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:

U.S. APPLICATIONS			STATUS (Check one)		
U.S. APPLICATION NUMBER	U.S. FILING DATE		PATENTED	PENDING	ABANDONED
PCT APPLICATIONS DESIGNATING THE U.S.					
PCT APPLICATION NO.	PCT FILING DATE	U.S. SERIAL NUMBERS ASSIGNED (if any)			

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. Anthony C. Scott, Reg. No. 25,439; Stephen D. Murphy, Reg. No. 22,002; Leopold Presser, Reg. No. 19,827; William C. Roch, Reg. No. 24,972; Kenneth L. King, Reg. No. 24,223; Frank S. DiGiglio, Reg. No. 31,346; Paul J. Esatto, Jr., Reg. No. 30,749; John S. Sensny, Reg. No. 28,757 and Mark J. Cohen, Reg. No. 32,211.

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201	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
202	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY
203	FULL NAME OF INVENTOR	FAMILY NAME	FIRST GIVEN NAME	SECOND GIVEN NAME
	RESIDENCE & CITIZENSHIP	CITY	STATE OR FOREIGN COUNTRY	COUNTRY OF CITIZENSHIP
	POST OFFICE ADDRESS	POST OFFICE ADDRESS	CITY	STATE & ZIP CODE/COUNTRY

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE OF INVENTOR 201	SIGNATURE OF INVENTOR 202	SIGNATURE OF INVENTOR 203
DATE	DATE	DATE
1/25/94		

[] Signature for fourth and subsequent joint inventors.
Number of pages added _____.

